

REMARKS

In response to the Office Action dated January 22, 2008, claims 1 and 15 are amended, claims 8-11 are cancelled without prejudice. Claim 7 was previously cancelled without prejudice. Claims 12-14 were previously withdrawn. Claims 1-6, and 15-19 are now active in this application. No new matter has been added.

As a preliminary matter, the Office Action accepted the addition of new claims 16-19 as corresponding to the inadvertently withdrawn claims 8-11, and requested that the withdrawn claims 8-11 should be cancelled. Applicants have cancelled claims 8-11 according to the Examiner's suggestion.

Also, the Office Action Summary (form PTOL-326) asserts that claims 5 and 6 are withdrawn from consideration. Specifically, page 2 of the Office Action asserts that claims 5 and 6 are directed to the species of FIG. 10, and are not directed to the elected species of FIGS. 5-9, and therefore are withdrawn. However, FIG. 10 is directed to "a glass encapsulation structure using a metal cap," as stated at page 29, lines 9-10 of the present application.

Thus, Applicants submit that claims 5 and 6 should be examined (and should not be withdrawn) because they are directed to the elected species of FIG. 5B, as described in page 20, lines 15-24 of the present application:

Also when a mold resin with high heat resistance is used as the encapsulating material without providing the heat conducting member 66 and the radiation fin 67, the excessive temperature increase of the external connection terminals 62a and 63a can be suppressed while appropriately keeping the temperature of the semiconductor chip 61 for keeping the high operation efficiency.

Alternatively, an encapsulating glass may be used as the encapsulating material instead of the encapsulating resin, and a **film** covering the encapsulating resin or encapsulating glass may be provided. In this case, the **radiation fin** is provided in a position opposing the heat conducting member with the encapsulating resin or encapsulating glass sandwiched therebetween.

Claims 1 and 15 are objected to because of informalities. Applicants submit that this objection has been overcome by the foregoing amendments.

Claims 1-4 and 15-19 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants submit that this rejection has been overcome by the foregoing amendments. Specifically, the term “without by way of said base material” has been deleted from independent claim 1.

Claims 1-3, 15, 16, 18, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin (U.S. 6,184,580) in view of Litwin (U.S. 6,507,047). Applicants traverse this rejection.

Claims 4 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin (U.S. 6,184,580) in view of Litwin (U.S. 6,507,047) and further in view of Huang (U.S. 2001/0045644). Applicants traverse this rejection.

Independent claim 1 recites, in part:

wherein a first intermediate member made of an electrically conductive material and a second intermediate member made of a material having lower heat conductivity than said first intermediate member are provided between said base material and said semiconductor chip; and

wherein **the semiconductor chip and the base are electrically connected with each other through the first intermediate member.**

In order to establish *prima facie* obviousness under 35 U.S.C. § 103(a), all the claim limitations must be taught or suggested by the prior art. Further, “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006). At a minimum, the cited prior

art references do not disclose (expressly or inherently) or suggest the above recited highlighted (bolded) element.

The Office Action, at pages 4-6, asserts that all of the elements of claim 1 are allegedly disclosed by the combination of Lin and Litwin. Specifically, the Office Action asserts that the claim 1 element, “wherein a first intermediate member made of an electrically conductive material and a second intermediate member made of a material having lower heat conductivity than said first intermediate member are provided **between said base material and said semiconductor chip,**” is disclosed by Lin at element 30 of FIG. 3, column 5, lines 38-41, and column 6, lines 25-26 for the first intermediate member, and element 28 of FIG. 3, at column 4, lines 61-62. The Office Action appears to interpret element 30 as being located between base material 34 and semiconductor chip 20 in FIG. 3 of Lin.

However, claim 1 has been amended to additionally recite, “wherein the semiconductor chip and the base **are electrically connected with each other through the first intermediate member.**” Applicants submit that Lin does not teach or suggest this additional element.

Further, Litwin is merely relied upon for disclosing power transistors using wide band gap semiconductor material, and does not remedy the deficiencies of Lin.

Thus, at a minimum, the combination of Lin and Litwin fails to teach or suggest the forgoing element, and therefore claim 1 is allowable over the cited art.

Under Federal Circuit guidelines, a dependent claim is allowable if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987).

Thus, as independent claim 1 is allowable for the reasons set forth above, it is respectfully submitted that dependent claims 2-6 and 15-19 are allowable for at least the same reasons.

Accordingly, it is urged that the application, as now amended, is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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